21 (Thrice-amended). A method for producing a polypeptide that binds to TRAF2 and either inhibits or increases the activity of NF-κB, comprising:

growing transformed host cells in accordance with claim 16 under conditions for the expression of an expression product from said cells;

effecting post-translational modification of said expression product as necessary for obtaining said polypeptide; and

isolating said polypeptide.

30 (Amended). A method for isolating and identifying a polypeptide, according to claim 20, capable of binding directly to TRAF2, comprising applying the yeast two-hybrid procedure in which a sequence encoding said TRAF2 is carried by one hybrid vector and a sequence from a cDNA or genomic DNA library is carried by the second hybrid vector, the vectors then being used to transform yeast host cells and the positive transformed cells being isolated, followed by extraction of the said second hybrid vector to obtain a sequence encoding a protein which binds to said TRAF2.

45 (Amended). A method for identifying and producing a ligand capable of either inhibiting or increasing the cellular activity which is changed or mediated by TRAF2 comprising:

a) screening for a ligand capable of binding to a polypeptide comprising at least a portion of TRAF2 having the amino acid residues 222-501 of TRAF2;

b) identifying and characterizing a ligand, other than TRAF2 or portions of a receptor of the TNF/NGF receptor family, found by the screening of (a) to be capable of said binding; and

c) producing said ligand in substantially isolated and purified form.

46(Thrice-amended). A method for identifying and producing a ligand capable of either inhibiting or increasing the cellular activity which is changed or mediated by a polypeptide according to claim 53, comprising:

a) screening for a ligand capable of binding to said polypeptide;

b) identifying and characterizing a ligand, other than TRAF2 or portions of a receptor of the TNF/NGF receptor family, found by said screening to be capable of said binding; and

c) producing said ligand in substantially isolated and purified form.

47 (Amended). A method for identifying and producing a ligand capable of either inhibiting or increasing

the cellular activity which is changed or mediated by NIK comprising:

a) screening for a ligand capable of binding to at least a portion of the NIK sequence of SEQ ID NO:7;

b) identifying and characterizing a ligand, other than TRAF2 or portions of a receptor of the TNF/NGF receptor family, found by said screening step to be capable of said binding; and

c) producing said ligand in substantially isolated and purified form.

47 (cont'd) Sub M'

48 (Amended). A method for identifying and producing a molecule capable of directly or indirectly either inhibiting or increasing the cellular activity which is changed or mediated by NIK, comprising:

a) screening for a molecule capable of either inhibiting or increasing activities which is changed or mediated by NIK;

b) identifying and characterizing said molecule; and

c) producing said molecule in substantially isolated and purified form.

Sub M'

49 (Amended). A method for identifying and producing a molecule capable of directly or indirectly either

inhibiting or increasing the cellular activity which is changed or mediated by a polypeptide according to claim 51;

b) identifying and characterizing said molecule; and

c) producing said molecule in substantially isolated and purified form.

51 (Amended). A polypeptide that binds to TRAF2 and either inhibits or increases the activity of NF-κB, said polypeptide comprising:

a) the amino acid sequence of SEQ ID NO:2, an amino acid sequence encoded by the nucleotide sequence of SEQ ID NO:6, or the amino acid sequence of SEQ ID NO:5;

b) an amino acid sequence of a fragment of a), which fragment binds to TRAF2 and either inhibits or increases the activity of NF-κB;

c) an amino acid sequence of an analog of a) or b), having no more that ten changes in the amino acid sequence of a) or b), each said change being a substitution, deletion or insertion of an amino acid, which analog binds to TRAF2 and either inhibits or increases the activity of NF-κB; or

d) a derivative of a), b) or c) which binds to TRAF2 and either inhibits or increases the activity of NF-κB.

55 (Amended). A DNA sequence encoding a polypeptide that binds to TRAF2 and either inhibits or increases activity of NF-κB, selected from the group consisting of

(i) a cDNA sequence comprising the nucleotide sequence of SEQ ID NO:1;

(ii) a cDNA sequence comprising the nucleotide sequence of SEQ ID NO:6;

(iii) a cDNA sequence comprising the nucleotide sequence of SEQ ID NO:4;

(iv) a fragment of a sequence of (i)-(iii) which encodes a polypeptide that binds to TRAF2 and either inhibits or increases the activity of NF-κB;

(v) a DNA sequence capable of hybridization to a sequence of (i)-(iv) under moderately stringent conditions and which encodes a polypeptide that binds to TRAF2 and either inhibits or increases the activity of NF-κB; and

(vi) any DNA sequence other than those defined in (i)-(v) which encodes a polypeptide in accordance with claim 51.

59 (Thrice-amended). A DNA sequence encoding

(1) a polypeptide in accordance with claim 53, or

(2) a polypeptide that binds to TRAF2 and either inhibits or increases the activity of NF-κB and is encoded by a

DNA sequence capable of binding to a DNA sequence encoding the sequence of (1) under moderately stringent conditions.

60 (Amended). An anti-sense oligonucleotide consisting of a sequence complementary to at least a portion of the mRNA encoding a TRAF2-binding polypeptide comprising the amino acid sequence of SEQ ID NO:2, an amino acid sequence encoded by the nucleotide sequence of SEQ ID NO:3, or the amino acid sequence of SEQ ID NO:5, said anti-sense oligonucleotide being capable of effectively blocking the translation of said mRNA.

62 (Amended). An isolated polypeptide comprising the amino acid sequence set forth as SEQ ID NO:7 or an analog thereof which differs from the sequence of SEQ ID NO:7 by a substitution, deletion or insertion of a single amino acid, which analog binds to TRAF2 and either inhibits or increases the activity of NF-κB.

64 (Amended). A method for identifying and producing a ligand capable of either inhibiting or increasing the cellular activity which is changed or mediated by a polypeptide according to claim 62, comprising:

a) screening for a ligand capable of binding to said polypeptide;

b) identifying and characterizing a ligand, other than TRAF2 or portions of a receptor of the TNF/NGF receptor

family, found by said screening to be capable of said binding; and

c) producing said ligand in substantially isolated and purified form.

68 (Twice-amended). A method for producing a polypeptide that binds to TRAF2 and either inhibits or increases the activity of NF-κB, comprising:

growing transformed host cells in accordance with claim 67 under conditions for the expression of an expression product from said cells;

effecting post-translational modification of said expression product as necessary for obtaining said polypeptide; and

isolating said polypeptide.